

ALLEN A. HUGHES, PH.D.

Office: (703) 993-1829

e-mail: ahughes@gmu.edu

EDUCATION

Ph.D., Engineering and Public Policy

Carnegie Mellon University

M.S., Management and Policy

Carnegie Mellon University

B.S., Nuclear Engineering

University of Virginia

PROFESSIONAL EXPERIENCE

George Mason University, School of Management Fairfax, VA

Assistant Professor of Decision Sciences and MIS, developing and teaching courses in decision sciences, management information systems, data communications and networks, database systems, microcomputer applications and modeling, and statistical analysis. (Fall 1996-Present)

U.S. Food and Drug Administration Rockville, MD

Consumer Representative Member of the FDA Advisory Committee for Medical Device Dispute Resolution. (2002 -Present)

U.S. Food and Drug Administration Rockville, MD

Substitute Consumer Representative Member of the FDA Advisory Committee for Circulatory Systems Devices. (2003 -2004)

George Mason University, Department of Public and International Affairs, The Institute of Public Policy, and the Office of the Provost Fairfax and Prince William, VA

Visiting Commonwealth Assistant Professor of Public Policy and Technology. Developed and instructed courses in microcomputer applications, computer modeling, management information systems, and health economics. Supervised graduate and undergraduate student projects. Director of the MPA degree program at the Prince William campus and member of its Academic Planning Board. Project Manager for the AmeriCorps/Lead grant responsible for its budget and leadership development of 32 members. (1991- Summer 1996)

U.S. Food and Drug Administration Rockville, MD

Consumer Representative Member of the FDA Advisory Committee for Good Manufacturing Practices (GMP) Expert Panel on Medical Device Risk Management. (1995-1998)

The MITRE Corporation McLean, VA

Analysis and research of energy and environmental issues, with emphasis on nuclear power plant license renewal, radioactive waste disposal, hazardous waste cleanup, risk assessment of space flights, and air emissions reductions. Clients included the U.S. Nuclear Regulatory Commission (NRC), Defense Nuclear Facilities Safety Board, U.S. Environmental Protection Agency (EPA), National Aeronautics and Space Administration (NASA), and the National Acid Precipitation Assessment Program (NAPAP). (1984-1991)

PROFESSIONAL EXPERIENCE (concluded)

Science Applications, Inc. McLean, VA

Fault tree modeling of safety systems for the Risk Reduction Study of the Clinch River Breeder Reactor located in Oak Ridge, TN. Aided the client in preparing progress report presentations to the Nuclear Regulatory Commission. Assisted the client in an Environmental Impact Statement peer review for interim nuclear waste storage. (Independent Consulting, 1982)

Science Applications, Inc. Palo Alto, CA

Fault tree/event tree modeling in the Probabilistic Risk Assessment (PRA) for the Shoreham nuclear power station located on Long Island, NY. Additional responsibilities included oral presentations of risk assessment methodology to clients and the preparation of PRA sections. Initiated a marketing plan for business development and prepared contract proposal sections to secure new business. (1981)

Arcata Associates, Inc. Burlingame, CA

Financial statement analysis for identification of businesses as potential acquisition candidates. Aided small business clients in securing financial resources through the U.S. Department of Transportation for acquisitions and investments. Accounting package research and software development. (Independent Consulting, 1980)

Westinghouse Electric Corporation--Advanced Reactors Division Oak Ridge, TN and Madison, PA

Project engineering in the areas of licensing, safety, health physics, computer systems for reactor refueling operations, and decommissioning aspects of the Clinch River Breeder Reactor. Performed analyses in radiation shielding, mass transfer, and fusion power systems. (1975-1979)

Westinghouse Electric Corporation--Nuclear Systems Division Monroeville, PA

Nuclear core design and fuel management analyses for the Zion I nuclear power station located in Zion, Illinois. (1974)

General Electric Company--Installation and Service Engineering Philadelphia, PA

Record keeping and schedule planning for various construction, component installation and welding inspection operations of the Peach Bottom Unit 3 nuclear power station located in Delta, PA. (1973)

PROFESSIONAL AFFILIATIONS

Institute of Electrical and Electronic Engineers (IEEE)

Association for Computing Machinery (ACM)

American Chemical Society

American Association of University Professors

POST-GRADUATE PROFESSIONAL DEVELOPMENT COURSES

Secure Electronic Commerce (INFS 767, George Mason University)

Internet Security Protocols (INFS 766, George Mason University)

Database and Distributed Systems Security (INFS 765, George Mason University)
Information Systems Security Principles (INFS 762, George Mason University)
Computational Sciences Tools I (CSI 601, George Mason University)
Advanced Network Science (CS 699, George Mason University)
Telecommunications Principles (ECE 590, George Mason University)
Professor's Portfolio Development (George Mason University)
Case Development for Teaching and Instruction (George Mason University)
High-Frequency Communications Systems (The MITRE Institute)
Systems Engineering (The MITRE Institute)
Advanced Engineering Mathematics (The MITRE Institute)
Technical Writing (The MITRE Institute)
Risk and Reliability Analysis (The MITRE Institute)
Introduction to ADA Programming Language (The MITRE Institute)
Advanced Medical Device Regulation (Food and Drug Law Institute)
Fault Tree Analysis (Carnegie Mellon Continuing Education)
Computer Software Engineering (Westinghouse)
Problem-Solving and Decision-Making (Westinghouse)

CERTIFICATES, APPLICATIONS SOFTWARE, AND PROGRAMMING LANGUAGES

Graduate Studies Certificate in Network Science—GMU Dept. of Computer Science
Excel, Lotus 1-2-3, Quattro Pro, Access, Paradox, Oracle, Minitab, SPSS, HTML
Assembler PDP-11, ADA, BASIC, C/C++, COBOL, Fortran, Pascal, UNIX,

PAPERS AND PUBLICATIONS

Piehler, Henry R. and Hughes, Allen A. (March 2004) "The Role of Postmarket Surveillance in the Medical Device Risk Management System". Presented at the Symposium on Engineering Systems, Engineering Systems Division at MIT, Cambridge, MA March 29-31, 2004.

Kovach, K., Kravitz, D., and Hughes, A. (Spring 2004) "Affirmative Action: How Can We Be So Lost When We Don't Even Know Where We Are Going?" Labor Law Journal, 55(1):pp. 53-61.

Kovach, K., Hughes, A., et al. (Summer 2002) "Administrative and Strategic Advantages of HRIS" Employment Relations Today, 29(2):pp. 43-8.

Hughes, AA (February 2002) Advantages and Disadvantages of Public Key Infrastructure (PKI) Trust Models. Presented at the Second Annual SAP Research Congress on ERP Applications. Tampa, FL. February 23-25, 2002.

Hughes, AA (February 2001) Biometrics as an Authentication Mechanism. Presented at the First Annual SAP Research Congress on ERP Applications. San Diego, CA. February 19-20, 2001.

Hughes, A.A. and H.R. Piehler (May 1995), The Value of Fault/Failure Analysis in the

Medical Device Regulatory Process: The Case of the Bjork-Shiley Heart Valve. (In: *Health Care Technology Policy II: The Role of Technology and the Cost of Health Care: Providing the Solutions, Proceedings of The International Society for Optical Engineering (SPIE)*, Warren S. Grundfest, Chair./Ed., Vol. 2499, Arlington, VA.

Hughes, A.A. (April 1994), Medical Device Risk Management and Public Safety: Using Cost-Benefit as a Measure of Effectiveness. (In: *Health Care Technology Policy I: The Role of Technology and the Cost of Health Care, Proceedings of The International Society for Optical Engineering (SPIE)*, Warren S. Grundfest, Chair./Ed., Vol. 2307, pp. 318-338, Arlington, VA.

Hughes, A.A. (April 1994), Identifying Incremental Costs for Successive Generations of Implantable Cardiac Pacemakers. (In: *Health Care Technology Policy I: The Role of Technology and the Cost of Health Care, Proceedings of The International Society for Optical Engineering (SPIE)*, Warren S. Grundfest, Chair./Ed., Vol. 2307, pp. 94-107, Arlington, VA.

Hughes, A.A. (October 1993), Incremental Costs and Benefits of High Technology Cardiac Pacing. Presented at the IEEE International Symposium on Technology and Society 1993, Washington, D.C. October 22-23, 1993. (Published in Conference Proceedings)

Hughes, A.A. and W.D. Perry (Spring 1993), National Security Policy Research Workshop: Strategic Options Assessments. The Institute of Public Policy, George Mason University, Technical Paper 93:2.

Hughes, A.A. (October 1992), An Analysis of Dow Corning Internal Documents Concerning the Risks of Silicone-Gel Breast Implants. Presented at the Fourteenth Annual Research Conference of the Association for Public Policy Analysis and Management, Denver, CO. October 29-31, 1992.

Hughes, A.A. (September 1991), The Copper-7 and CapSure Steroid-Eluding Pacemaker Leads: Devices or Drugs? Presented at the FDA Public Hearing on Section 16 of the Safe Medical Devices Act of 1990, Rockville, MD. September 6, 1991.

Hughes, A.A., D.M. Ligon, and S.S. Seth (June 1991), Public Perspectives on Proposed License Renewal Regulations for Nuclear Power Plants. Presented at the Plant License Renewal Topical Meeting of the American Nuclear Society, Orlando, FL, June 2-6, 1991.

Hughes, A., R. Pikul, et al. (March 1991), The Future of Nuclear Power: Responding to the Challenges of Public Concerns. MP-91W00010, McLean, VA: The MITRE Corporation.

PAPERS AND PUBLICATIONS (continued)

Hughes, A. and A. Faramarzi (December 1990), Screening of Generic Safety Issues for License Renewal Considerations. NUREG/CR-5382, WP90W00467, published by the U.S. Nuclear Regulatory Commission.

Hughes, A.A. (November 1990), The Value of Information Characterized by Disaggregated Attributes of a Medical Device Risk Management System. Doctoral Dissertation, Pittsburgh, PA: Carnegie Mellon University.

Hughes, A., L. Ettlinger, S. Seth, et al. (August 1990), Comparative Review of Safety Standards for Department of Energy Defense Nuclear Facilities. MTR-90W00115, McLean, VA: The MITRE Corporation.

Hughes, A.A., D.M. Ligon, and S.S. Seth (January 1990), Public Workshops on Nuclear Plant License Renewal--Summary of Public Comments. NUREG/CP-0108, MTR90R00013, published by the U.S. Nuclear Regulatory Commission.

Hughes, A.A., W. Smith, et al. (August 1989), Proposed Rule for Nuclear Power Plant License Renewal--Environmental Assessment. WP89W00109, McLean, VA: The MITRE Corporation.

Hughes, A.A. (December 1988), A Topical Study of the Systematic Evaluation Program (SEP) in Support of License Renewal Regulations Development. WP88W00438, McLean, VA: The MITRE Corporation.

Hughes, A.A. (July 1988), Review of Generic Safety Issue 138: Deinerting Upon Discovery of Reactor Cooling System Leakage. WP88W00229, McLean, VA: The MITRE Corporation.

Hughes, A.A. and S.R. Rod (May 1988), Criteria for Assessment of the Analysis of Generic Safety Issues. WP88W00177, McLean, VA: The MITRE Corporation.

Hughes, A.A., R. Pikul, S. Seth, et al. (February 1988), Regulatory Considerations of Issues Pertaining to Nuclear Plant License Renewal: Status Report. WP88W00038 Rev 1, McLean, VA: The MITRE Corporation, Published as NUREG-1317 by the U.S. Nuclear Regulatory Commission.

Hughes, A., S. Seth, et al. (1987), Regulatory Options for Technical Issues Pertaining to Nuclear Plant License Renewal. WP87W00374, McLean, VA: The MITRE Corporation.

Hughes, A.A. (March 1987), A Problem Definitional Study for the Derivation of Automotive Exhaust Emissions Rate Uncertainty. WP87W00052, McLean, VA: The MITRE, Corporation.

PAPERS AND PUBLICATIONS (concluded)

Hughes, A.A., B.H. Price, and S.V. McBrien (November 1986), General Specification for the Integrated Emissions Prediction Model. WP84W00253, McLean, VA: The MITRE Corporation.

Hughes, A.A., S.V. McBrien and B.H. Price (April 1986), Report on a Workshop on the

Advanced Utility Simulation Model. WP86W00179, McLean, VA: The MITRE Corporation.

Hughes, A.A., S.V. McBrien, et al. (July 1985), Assessment of the Advanced Notice of Proposed Rulemaking (ANPR) for the California Outer Continental Shelf (OCS). WP85W00322, McLean, VA: The MITRE Corporation.

Hughes, A.A. and A.G. Adamantiades (January 1985), Light Water Reactor Advanced Concepts. WP85W00027, McLean, VA: The MITRE Corporation.

Hughes, A.A. and A.G. Adamantiades (January 1985), Liquid Metal Fast Breeder Reactor Developments. WP85W00028, McLean, VA: The MITRE Corporation.